

Remarks/Arguments

Claim to Priority

The Examiner has acknowledged Applicant's claim for foreign priority based on European Application EP 03425313.8 and has noted that no certified copy of that application has been filed. Applicant thanks the Examiner for noting this omission and will take steps to file a certified copy of the European application forthwith.

The § 112, second paragraph rejections of Claims 1-5

The Examiner has rejected Claims 1-5 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended Claims 1-5 and respectfully traverses the rejection of those amended claims.

The Examiner states that it is not clear in Claim 1 whether Applicant is claiming a folding roller or a converting machine of paper. Applicant has amended Claim 1 to more clearly claim a pair of folding rollers used in a paper converting machine wherein each of the pair of folding roller comprises at least one cylindrical body and a plurality of folding means. Claim 1 further claims the configuration of the pair of folding rollers in which they interact at a contact line to produce a stack of folded or interwoven sheets downstream from the contact line and where each folding roller is supported by at least one support located so as not to impede folding operations.

The Examiner rejected Claim 3 under §112, second paragraph stating the claims limitation "at a portion not occupied by folding rings is a negative recitation of part of the invention. Applicant has amended Claim 3 to claim the arrangement in which the at least one support for the folding rollers each contact the respective folding roller at a gap located between or at the end of the plurality of folding means thereby providing a positive recitation of the claimed arrangement.

The Examiner rejected Claim 5 as indefinite, confusing, or vague stating it is not clear how Applicant arranged the relative bearing at the operatively connected ends. Applicant has amended Claim 5 to claim the arrangement in which the at least one support contacts or supports

the folding roller at the junction of the two operatively connected ends. In addition, the amendment to Claim 5 provides proper antecedent basis to the claim limitation "relative bearing."

Applicant has amended Claims 2 and 4 to ensure those claims conform to 35 U.S.C. § 112 to provide clarity to each of those claims. In addition, Applicant respectfully submits that the amendment to Claim 4 provides proper antecedent basis to the "said ends" claims limitation of amended Claim 5.

Applicant respectfully submits that the amendments to each of Claims 1-5 clearly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully requests withdrawal of the rejections of Claims 1-5 under § 112, second paragraph.

The § 103 (a) Rejections of Claims 1-5

The Examiner rejected Claims 1-5 as unpatentable under 35 U.S.C. § 103 (a) as obvious over U.S. Patent No. 4,270,744 to Trogan ("Trojan" or "the Trojan patent") in view of U.S. Patent No. 6,299,162 to Ogasawara ("the '162 patent"). Applicant has amended Claims 1-5 and respectfully traverses the rejection of Claims 1-5. Applicant respectfully requests reconsideration and passage to allowance of those claims.

To establish a *prima facie* case of obviousness the reference(s) must provide a reasonable expectation of success. In addition, the references must teach or suggest all limitations of the claim at issue. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicant respectfully submits that the combination of the Trojan patent and the '162 patent fails to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 (a) as they fail to teach or suggest all the limitations of those claims and also fail to provide a reasonable expectation of success.

Amended independent claim 1 claims a pair of folding rollers each supported by at least one support. Figures 3-7 of the instant application depict one support 10 holding one of a pair of folding rollers where each of the folding rollers have folding means that meet at a contact line.

As noted by the Examiner, Trogan does not provide for at least one support that does not impede folding operations. The Trogan patent also discloses only a pair of support means at each end of a folding cylinder.

Moreover, Applicant respectfully submits that the '162 patent fails to render Claim 1 obvious in that the support system taught by the '162 patent cannot be used to provide only one support for two reasons. The support system in the '162 patent only works with at least two supports - one at each end of the one folding roller. The support in the middle of the folding roller provides a third supplemental support but by its configuration it can be seen that it would not be able to hold a long cylindrical folding roller by itself without other support components. Thus the combination of the Trogan patent and the '162 patent fails for two reasons to render Claim 1 obvious. First, not all claim elements are taught or suggested by the combined references, namely the at least one support limitation of Claim 1 as both Trogan and the '162 patent provide at least two support elements. Second, use of only the middle support element 8 alone as seen in Figures 1 and 4 of the '162 patent does not provide a reasonable expectation of success in that use of such a support device as described in the '162 patent would not be successful in holding a long folding roller so as to interact against a second folding roller along a contact line - all of which are elements of Claim 1.

Finally, Applicant courteously notes that the '162 patent is directed to a paper feed mechanism, while Claim 1 is drawn to a pair of folding rollers in a paper converting machine. Applicant respectfully submits that these two operations are nonanalogous as they require machines that perform different functions. A paper feed machine acts only to transport or move a sheet from one point to another. In contrast, paper converting machines require rollers that change the configuration of a sheet of material.

Thus, because the combination of the Trogan and '162 patents fails either to teach or suggest all the elements of Claim 1 and because the middle support mechanism of the '162 patent working by itself would not have a reasonable chance of success in holding a folding roller with folding means to interact against another folding roller with folding means along a contact line, Applicant respectfully submits that the combined Trogan and '162 patents fail to

render Claim 1 obvious under § 103 (a). Applicant respectfully requests reconsideration and passage to allowance of Claims 1.

If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. Claims 2-5 depend directly or indirectly from Claim 1 and thus incorporate all the limitations of that claim. Because, as discussed above, the Trogan and '162 patents fail to render Claim 1 obvious, they also fail to render Claims 2-5 obvious. Applicant respectfully requests the removal of the rejections of Claims 2-5 and passage to allowance of those claims.

Moreover, Applicant specifically traverses the obviousness rejection of amended Claim 3. Claim 3 includes the claim limitation wherein the at least one support contacts the folding roller at a gap between the plurality of folding means located on the folding roller. Applicant respectfully points out that Trogan does not disclose a gap between the folding means on either folding roller, while the '162 patent does not disclose any type of folding means at all on the single disclosed folding roller, let alone a gap between folding means. Thus, the combined Trogan and '162 patents fail to render Claim 3 obvious as they fail to disclose all the elements of that claim. Applicant respectfully requests reconsideration and passage to allowance of Claim 3.

In addition, Applicant respectfully traverses the obviousness rejection of amended Claim 4. Applicant notes that Claim 4 claims the embodiment in which the folding rollers comprise more than one cylindrical body operatively connected along their cylindrical axes. Support for this embodiment is seen in Figures 4 and 5 and paragraph 0030 of the specification. Applicant notes that neither Trogan nor the '162 patent disclose a folding roller comprising more than one cylindrical body and certainly not where two or more cylindrical bodies are connected along the cylindrical axes to rotate integrally or together. Therefore, the Trogan and '162 patents fail to render amended Claim 4 obvious under § 103 (a), as they fail to disclose each element of that claim. Applicant respectfully requests reconsideration and passage to allowance of that Claim 4.

Attorney Docket No. AGZP:115US
U.S. Patent Application No. 10/709,189
Reply to Office Action of March 4, 2005
Date: July 1, 2005

Conclusion

Applicant respectfully submits that the present application is now in condition for allowance, which action is courteously requested. The Examiner is invited and encouraged to contact the undersigned attorney of record if such contact will facilitate an efficient examination and allowance of the application.

Respectfully yours,



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Dated: July 1, 2005